PTUKHA, Mikhail V.

"L'enquete par sondage dans l'agriculture de la Russie au XVIIe et au XVIIIe siecle (N 2)."

report presented at the 32nd Meeting, International Statistical Institute, Tokyo, Japan, 30 May - 9 June 1960.

Acad. of Sci. of the USSR, Professor of Statistics, Univ. of KIEV, USSR.

YERSHOV, B.Ya.; PTUKHA, P.Ye.

Processing of jute in the sack industry. Tekst.prom.16 no.10:53-54 O '56. (MLRA 10:1)

1. Glavnyy inzhener fabriki "Serp i molot" (for Yershov).2.Nachal'nik Planovo-proizvodstvennogo otdela fabriki "Serp i molot"(for Ptukha). (Jute)

PTUKHA, R., kand. med. nauk

Life-giving rays. Znan. ta pratsia no.5:2-3 My '63.
(MIRA 16:6)

(Photosynthesis)
(Biological research)

PTUKHA, R. M., starshiy nauchnyy sotrudnik (Kiyev)

Scientific conference dedicated to the 85th birthday of N. D. Strazhesko. Vrach. delo no.7:145-147 Jl '62. (MIRA 15:7)

(MEDICINE--CONGRESSES)
(STRAZHESKO, NIKOLAI DMITRIEVICH, 1876-)

PTUKHA, R.M., starshiy nauchnyy sotrudnik (Kiyev)

Effectiveness of long courses of treatment with Rauwolfia serpentina preparations. Vrach.delo no.10:32-35 O '62. (MIRA 15:10)

1. Otdel klinicheskoy farmakologii i funktsional'noy terapii (zav. - zasluzhennyy deyatel' nauki, prof. A.L.Mikhnev) Ukrainskogo nauchno-issledovatel'skogo instituta klinicheskoy meditsiny imeni akademika N.D.Strazhesko.
(RAUWOLFIA) (HYPERTENSION)

PTUKHA, R.M.

Role of the central nervous system in the regulation of tissular carbohydrate metabolism. Fiziol.zhur.[Ukr.] 5 no.1:95-98 Ja-F '59. (MIRA 12:5)

1. Ukrainskiy nauchno-issledovatel'skiy institut klinicheskoy meditsiny im. akad. M.D.Strazheska, otdel klinicheskoy farmakologii.
(CARBOHYDRATE METABOLISM) (SLEEP--THERAPEUTIC USE)
(HYPERTENSION)

PTUKHA, R.M., kand.med.nauk

Some remarks in relation to the treatment of hypertension patients with medication sleep in the light of late results. Mat.po obm. nauch.inform. no.2:113-116 '58. (MIRA 13:6)

1. Iz otdela klinicheskoy farmakologii (zav. - prof. A.L. Mikhnev) Ukrainskogo nauchno-issledovatel'skogo instituta klinicheskoy meditsiny, Kiyev.
(HYPERTENSION) (SLEEP--THERAPEUTIC USE)

PTUKHA, R.M., kand.med.nauk

Carbohydrate metabolism in rheumatic and infectious nonspecific polyarthritis. Mat.po obm.nauch.inform. no.2:117-119 '58. (MIRA 13:6)

1. Iz otdela klinicheskoy farmakologii (zav. - prof. A.L. Mikhnev) Ukrainskogo nauchno-issledovatel'skogo instituta klinicheskoy meditsiny Kiyev.
(CARBOHYDRATE METABOLISM) (ARTHRITIS)

PTUKHA, R. M.

PTUKHA, R. M.: "Tissue hydrocarbon metabolism in hypertonic disease and its treatment with medicinal sleep (first and second stages of the disease)." Kiev Order of Labor Red Banner Medical Inst imeni Academician A. A. Bogomolets. Kiev, 1956. (Dissertations for the Degree of Candidate in Medical Sciences).

SO: Knizhnaya Letopis' No. 22, 1956

USSR / Human and Animal Physiology. Carbohydrate Metabolism. T

Abs Jour : Ref Zhur - Biol., No 15, 1958, No. 69828

Author : Ptukha, R. M.
Inst : Ukrainian Scientific Research Institute of Clinical Medicine
Title : Changes in Tissue Carbohydrate Metabolism in Hypertensive Patients under the Influence of Therapeutic Sleep

Orig Pub : Materialy po obmeny nauchn. inform. Ukr. n.-i. in-ta klinich. meditsiny, 1957, No 1, 185-188

Abstract : No abstract given

Card 1/1

1. SOKOLINSKYI, D. A., Docent; LEVIN, O. I.; LYUBOVYCH, V. I.; FEIHIN, M. B.; PTUKHA, R. M.; SOROCHKINA, S. N.

2. USSR (600)

4. Influenza

7. Cardiovascular system in grippe, Medych. zhur., 22, no. 1, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

PTUKHA, T., kand.fiz.-matem.nauk; FEDIN, Ye. [Fedin, E.], kand.fiz.-matem.nauk

Researcher in a miracle world. Znan. ta pratsia no.3:18-19 Mr '63. (MIRA 16:10)

PTUKHA, T.P.

Specific covection currents in superfluid He^3 - He^4 solutions.
Ukr. fiz. zhur. 10 no.2:225-226 F '65. (MIRA 18:4)

1. Institut fiziki AN UkrSSR, Kiyev.

PTUKHA, T. P.

56-1-6/56

AUTHOR: Ptukha, T. P.

TITLE: The Density of He^3 -He^4 -Solutions (Plotnost' rastvorov He^3 -He^4).

PERIODICAL: Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, 1958, Vol. 34, Nr 1, pp. 33-38 (USSR).

ABSTRACT: The author measured the density of the He^3 -He^4 solutions which are under the pressure of their saturated vapors as a function of the temperature at the concentrations 10; 20,1; 30,3; 41,2; 49,9; 68,5, and 85,4% He^3 by means of the usual pycnometer method. The construction of the pycnometer is discussed. The device for the measurement of the mass of the gas volume consisted in a small mercury gas-holder with a volume of 5 liters, a mechanical mercury pump, 3 manometers for the determination of the pressure in the various parts of the system and of a junction line. The temperature was determined from the vapor pressure. He^3 with a purity degree of at least 99,98% was used in the production of the mixtures. The process used for the measuring of the density ρ is described in short. The attached table demonstrates the experimental results for the density ρ

Card 1/3

The Density of He^3 -He^4 Solutions.

of the He^3 -He^4 solutions as a function of the temperature for various concentrations. The same table contains also the results of the measurements (by means of the same method as in the solutions) of the density of pure He^3. The results obtained here agree well with those of E.S. Kerr. The formula used for the computation of the density of the solutions is written down. The data of B.N. Yesel'son and N.G. Bereznyak (reference 5) on the vapor pressure of the solutions are used for the corrections of the amount of vapor. The experimental results are also shown by a diagram. From 3 up to 5 experiments were carried out for each concentration. The temperatures of the λ-transition for the concentrations 10; 20,1; 30,3; 41,2% could be determined from the salient point of the curve $\rho(T)$. For the last two concentration values the values of the λ -temperatures were found by intersecting the tangents in the point of inflection. The λ-points determined by this way agreed well with the results of B.N. Yesel'son and others (reference 8) within the experimental accuracy. For the temperatures below T_λ the equilibrium can be established only after a much longer time than for the temperatures above the λ-transition. The experimental values of the density of the solutions differ a little from the theoretical values which were computed

The Density of He^3 -He^4 Solutions. 56-4-6/36

on the condition of the additive property of the molar volumes.
There are 6 figures, 1 table, and 10 references, 3 of which are Slavic.

ASSOCIATION: Institute for Physical Problems AN USSR (Institut fizicheskikh problem Akademii nauk SSSR).

SUBMITTED: July 16, 1957

AVAILABLE: Library of Congress

Card 3/3

L 58955-65 EED(b)-3/EPF(c)/EPF(n)-2/EWT(l)/EWT(m)/EWP(b)/EWP(t) Pr-4/Pu-4
IJP(c) WW/JD
ACCESSION NR: AP5010387 UR/0368/65/002/003/0223/0226
538.61

AUTHORS: Prikhot'ko, A. F.; Ptukha, T. P.; Shanskiy, L. I. 34 33 B

TITLE: Low temperature procedure for magneto-optical investigations of crystals superfluid helium temperatures

SOURCE: Zhurnal prikladnoy spektroskopii, v. 2, no. 3, 1965, 223-226

TOPIC TAGS: superfluidity, low temperature research, magneto-optical measurements, cryostat design

ABSTRACT: The purpose of the investigation was to develop a low-temperature procedure for magneto-optical investigations of crystals in the temperature interval down to 1.2K. The cryostat used for the measurements is shown in Fig. 1 of the Enclosure. Earlier cryostats were suitable for operation down to 4.2K only, and were not equipped to cope with the superfluidity which sets in below the λ transition point (2.17K). An operating procedure for the use of the cryostat is described. The procedure was used to investigate the absorption spec-

Card 1/3

L 58955-65
ACCESSION NR: AP5010387

trum of solid oxygen and of antiferromagnetic crystals. It is pointed out that the construction of the cryostat is such that the spectra can be recorded by various standard optical means. 'We thank A. B. Fradkov for valuable help in the work.' Original article has: 1 figure

ASSOCIATION: None

SUBMITTED: 10Nov64 ENCL: 01 SUB CODE: GP

NR REF SOV: 003 OTHER: 003

Card 2/3

L 58955-65

ACCESSION NR: AP5010387

ENCLOSURE: 01

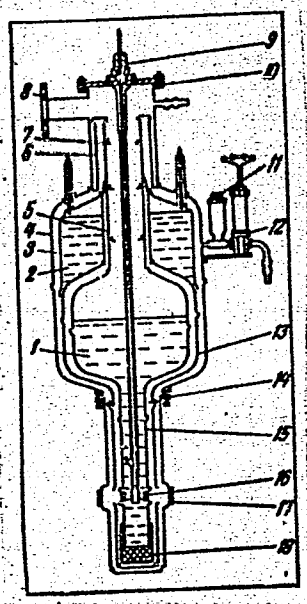


Fig. 1. Cryostat for magneto-optical investigations of crystals in the region of superfluid helium temperatures.

1 - Tank, 2 - nitrogen bath, 3 - vacuum cavity, 4 - cover, 5 - thin wall tube, 6 - thin wall tube, 7 - stiffener, 8 - vacuum line, 9 - sleeve, 10 - flange, 11 - ionization manometer, 12 - bellows valve, 13 - copper screen, 14 - teflon gasket, 15 - tube, 16 - window, 17 - window, 18 - carbon pump

Card 3/3

PTUKHA, T.P.

Density of a weak mixture of He^3 - He^4. Ukr. fiz. zhur. 10 no.3:353 Mr '65. (MIRA 18:6)

1. Institut fiziki AN UkrSSR, Kiyev.

PTUKHA, T.P.

Heat conduction and diffusion of weak He^3 - He^4 solutions in the temperature range from the λ-point to 0.6°. Zhur. eksp. i teor. fiz. 40 no.6:1583-1593 Je '61. (MIRA 14:8)

1. Institut fizicheskikh problem AN SSSR.
(Helium--Thermal properties)
(Low temperature research)

83780

S/056/60/039/003/044/045
B004/B060

11.3100

AUTHOR: Ptukha, T. P.

TITLE: Determination of the Diffusion Coefficient and Heat Conductivity of Weak He^3 Solutions in Helium II

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 3 (9), pp. 896-898

TEXT: The author describes the following experimental arrangement: In a vessel containing a weak solution of He^3 in He^4, one wall is cooled, while the other one is heated. He^3 is carried along by the thermal excitations, and accumulates on the cold wall. Due to diffusion and heat conduction effects, concentration- and temperature gradients arise. The effective heat conductivity κ_{eff} is determined by measuring the temperature gradient in the direction of the heat flow. Fig. 1 shows the curves $\kappa_{eff} = f(T)$ in the range of 0.6 - 2.1°K for a 0.1 and 1.1% solution of He^3 in He^4; these curves are compared with the values calculated by I. M. Khalatnikov and V. N. Zharkov (Ref. 2). The minimum

Card 1/3

Determination of the Diffusion Coefficient and Heat Conductivity of Weak He^3 Solutions in Helium II

S/056/60/039/003/044/045
B004/B060

observed proves the effect of two processes in the system investigated: a heat transfer by the motion of thermal excitations, which is, however, restricted by the small He^3 amount, and a heat transfer by diffusion of thermal excitations. The diffusion coefficient D was measured in the range between the λ-point and 1.5°K from the values for $\varkappa_{eff}$ at a concentration of He^3 = 0.1%. Fig. 2 shows the results obtained by the author, and gives, for comparison, the theoretical curve as well as the results obtained by J. J. M. Beenakker et al. (Ref. 3), and G. Careri et al. (Ref. 4). Fig. 3 shows $\varkappa = f(T)$, and compares the data obtained by the author with the values supplied by K. N. Zinov'yeva for pure He^4. For the weak solutions investigated, the heat conductivity in the range between the λ-point and 1.1°K depends little on the concentration. The publication of a paper giving closer details is announced. There are 3 figures and 8 references: 3 Soviet, 2 US, 2 Dutch, and 1 Italian.

83780

Determination of the Diffusion Coefficient and Heat Conductivity of Weak He^3 Solutions in Helium II

S/056/60/039/003/044/045
B004/B060

ASSOCIATION: Institut fizicheskikh problem Akademii nauk SSSR (Institute of Physical Problems of the Academy of Sciences, USSR)

SUBMITTED: July 13, 1960

Card 3/3

PRIKHOT'KO, A.F.; PTUKHA, T.P.; SHANSKIY, L.I.

Low-temperature methods for magneto-optical studies of crystals in the temperature region of superfluid helium. Zhur. prikl. spekt. 2 no.3:223-226 Mr '65. (MIRA 18:6)

L 23243-66 EWT(d)/EWT(l)/EWT(m)/EPF(n)-2/EWP(t) IJP(c) JD/WW

ACCESSION NR: AP6009072 SOURCE CODE: UR/0185/66/011/003/0305/0312

AUTHOR: Ptukha, T. P.

ORG: Institute of Physics, Academy of Sciences, Ukrainian SSR (Instytut fizyky AN URSR)

TITLE: Stationary temperature distribution in weak superfluid He^3--He^4 mixtures

SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 11, no. 3, 1966, 305-312

TOPIC TAGS: liquid helium, phase transition, relaxation process, heat convection, thermal conduction, superfluidity, temperature distribution

ABSTRACT: The authors studied the characteristics of the temperature distribution in isotope mixtures of helium with molar He^3 concentrations of 1.39×10^{-4}, 1.32×10^{-3}, and 1.36×10^{-2} by measuring the stationary temperature gradient along the heat flow. The low-temperature setup consisted of a stainless-steel Dewar whose top cover was joined to a bath filled with He^3 or He^4. Four superconducting phosphor bronze thermometers and electronic stabilizers made it possible to control the temperature of the bath to within 10^{-4} -- 10^{-5} deg. The thermometers were calibrated against the superconducting transition points. Control experiments were

Card 1/3

carried out at each temperature at zero heat flow and then curves were obtained at various heat intensities which described the process of the setting in of stationary equilibrium. At a given temperature and constant heat flux the relaxation time decreased with decreasing concentration, whereas in solutions of a given concentration and identical heat flux it also decreased with decreasing initial temperature. In the entire investigated range, 0.5 -- 2.15K, the relaxation time did not exceed 10 -- 12 min. Depending on the initial temperature, the temperature distribution in the solution changes, the temperature drop at a given flux of 894 erg/cm^2-sec occurring mainly near the cold end of the reservoir. This indicated that the concentration drop in He^3 also occurs in a relatively thin layer of less than 1.11 mm. This can be explained by the assumption that the heat is transferred mainly by the macroscopic flux of thermal and impurity excitations. With decreasing initial temperature the heat-transfer process by means of thermal conductivity increases, and at 1K it predominates. The density of the solution containing 10^{-2}% He^3 was measured between 1.3 -- 4.0K. The temperature dependence of the density of this solution was found to coincide with that of He^4 to within 1%. Assuming the same temperature dependence at lower temperatures, it is concluded that the conditions for free convection are absent in the 0.5 -- 2K range. At temperatures 1.2 -- 1.0K and below 0.75K there can be no convective currents. Control experiments showed that

L 23243-66

ACCESSION NR: AP6009072

in pure He^4 there were no temperature gradients in the presence of a flux from the heater. Orig. art. has: 6 figures and 1 table.

SUB CODE: 20/ SUBM DATE: 13May65/ ORIG REF: 004/ OTH REF: 002/

Card 3/3 MJS

PTUKHIN, F.I.

Effect of the deformation rate on the limit of strength of river ice. Trudy Transp.-energ. inst. Sib. otd. AN SSSR no.15: 77-92 '64. (MIRA 18:6)

PTUSHENKO, Ye.S.

Use of conventional symbols in ornithology. Ornitologiia no.5: 375-378 '62. (MIRA 16:2)
(Ornithological research)

PUKHIN, F.I.

Statistical method for determining the scale effect in ice. Izv. SO AN SSSR no.6 Ser. tekh. nauk no.2:70-79 '64. (MIRA 17:10)

1. Sibirskiy nauchno-issledovatel'skiy institut energetiki, Novosibirsk.

PTUSHENKO, Ye.S.

Supplements and corrections to the list of birds in the Oka Preserve and Ryazan Province. Ornitologiia no.5:108-109 '62. (MIRA 16:2)

(Oka Preserve--Birds) (Ryazan Province--Birds)

PTUSHENKO, Ye. S.

Rustamov, A. K. and Ptushenko, Ye. S. "Caravan routes in the Kara-Kum as an element of the cultural landscape," Trudy Tsentr. byuro kol'tsevaniya, Issue 7, 1948, p. 68-73.

So: U-3736, 21 May 53, (Letopis 'Zhurnal 'nykh Statey, No. 17, 1949).

PTUSHENKO, Ye. S.

Ptushenko, Ye. S. "Migrations of the lake gull Larus ridibundus ridibundus L.", Trudy Tsentr. byuro kol'tsevaniya, Issue 7, 1948, p. 195-269.

SO: U-3736, 21 May 53, (Letopis 'Zhurnal 'nykh Statey, No. 17, 1949).

PTUSHENKO, YE. S. and RUSTAMOV, A. K.

Ptushenko, Ye. S. and Rustamov, A. K. "The characteristics of the coloring of the tufted Zhavoronok of Central Asia and their relationship to the substrata", Okhrana prirody, 1948 (on the cover: 1949), No. 6, p. 90-91.

SO: U-3261, 10 April 53, (Letopis 'Zhurnal 'nykh Stat ey, No. 11, 1949).

PTUSHENKO, Ye.S.; VINOKUROV, A.A.; DUBROVSKIY, E.B.

Airplane investigation of the numbers, distribution and biology of fish-eating birds in the Sea of Azov. Vop.ikht. no.7:204-208 '56. (MLRA 10:3)

1. Kafedra zoologii pozvonochnykh Moskovskogo gosudarstvennogo unoversiteta im. M.V. Lomonosova.

(Azov, Sea of--Water birds)

PTUSHENKO, Ye.S.

Characteristics of fall migration of birds along the Black Sea coast of the Caucasus. Ornitologiia no.2:200-207 '59. (MIRA 14:7)

(Caucasus--Birds--Migration)

PTUSHENKO, Ye.S.

New bird species in Ryazan Province. Sbor. trud. Zool. muz. MGU. 9:217-219 '65.

Taxonomy and distribution of the ortolan bunting - Emberiza hortulana L. Ibid.:220-224 (MIRA 18:6)

GLADKOV, N.A.; DEMENT'YEV, G.P.; PTUSHENKO, Ye.S.; SUDILOVSKAYA, A.M.; IVOZEMTSEV, A.A., red.

[A guide to the birds of the U.S.S.R.] Opredelitel' ptits SSSR. [By] N.A.Gladkov i dr. [n.p.] Vysshaia shkola, 1964. 536 p. (MIRA 17:6)

SOV/124-58-2-2494

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 2, p 128 (USSR)

AUTHORS: Kolenchuk, K. I., Ptushinskiy, G. A.

TITLE: Determination of the Stress-rupture Strength of Wet Wood Under Tension, Compression, Longitudinal Cleavage, and Transverse Bending (Opredeleniye predela dlitel'nogo soprotivleniya mokroy drevesiny pri rastyazhenii, szhatii, skalyvanii vdol' volokon i poperechnom izgibe)

PERIODICAL: Tr. Kiyevsk. gidromelior. in-ta, 1956, Nr 6, pp 235-243

ABSTRACT: Bibliographic entry

Card 1/1

ACCESSION NR: AP4019871 S/0181/64/006/003/0954/0956

AUTHORS: Panchenko, O. A.; Ptushinskiy, Yu. G.

TITLE: The effect of adsorption of barium on the Hall effect in thin nickel films

SOURCE: Fizika tverdogo tela, v. 6, no. 3, 1964, 954-956

TOPIC TAGS: adsorption, Hall effect, Hall constant, conduction electron, electron interaction, work function, electron work function, thin film

ABSTRACT: The authors' purpose has been to obtain information on electron interaction during adsorption. It has been known for some time that the adsorption of Ba on the surface of a metal is accompanied by decrease in the electron work function, but no opinion has been advanced concerning the mechanism of this effect. The authors plot the Hall emf against magnetic field strength and find t that the adsorption reduces the slope of this dependence. That is, adsorption of Ba decreases the Hall constant, and this indicates a decrease in number of conduction electrons in the film. The authors conclude that these results indicate that the adsorption of Ba atoms is accompanied by the transition of electrons

Card 1/2

ACCESSION NR: AP4019871

from adsorbate to adsorbent, i.e., by the ionization of these atoms. It is probable that this process leads to a decrease in the work function. Orig. art. has: 1 figure.

ASSOCIATION: Institut fiziki AN UkrSSR, Kiev (Institute of Physics AN UkrSSR)

SUBMITTED: 07Sep63 DATE ACQ: 31Mar64 ENCL: 00

SUB CODE: NP NO REF SOV: 002 OTHER: 000

Card 2/2

TUSH[illegible] YU. I.

"Investigation of Diffusion Processes in an Oxide Cathode by the Method of Tracer Atoms." Cand Phys-Math Sci, Inst of Physics, Acad Sci Ukrainian SSR, Kiev, 1954. (KL, No 9, Feb 55)

SO: Sum. No. 631, 26 Aug 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (14)

PTUSHINSKIY, Yu. G.

USSR/Physics - Diffusion FD-3123

Card 1/1 Pub. 153 - 22/24

Author : Morgulis, N. D.; Ptushinskiy, Yu. G.

Title : Diffusion of atoms of admixture (impurity) across near-contact layer of oxide cathode

Periodical : Zhur. tekh. fiz., 25, No 6 (June), 1955, 1157-1159

Abstract : The authors discuss the introduction into cathode cores of suitable activating admixtures for the purpose of facilitating and accelerating the process of activation of oxide cathodes and maintaining them in the active state during the entire period of operation; and they consider the subsequent formation of a layer of barium orthosilicate Ba_2SiO_4 possessing all the characteristics of the chemical blocking layer and exerting a negative influence upon the prolonged operation of the cathode. They consider in detail the causes for the appearance of this layer. On the basis of data presented on the process of activation and prolonged operation of oxide cathodes the authors expect that both nickel atoms themselves in the cathode cores and other admixtures hit the layer. Three references, including one USSR: Yu. G. Ptushinskiy, Author's abstract of candidate dissertation, Institute of Physics, Academy of Sciences of Ukrainian SSR, Kiev, 1954.

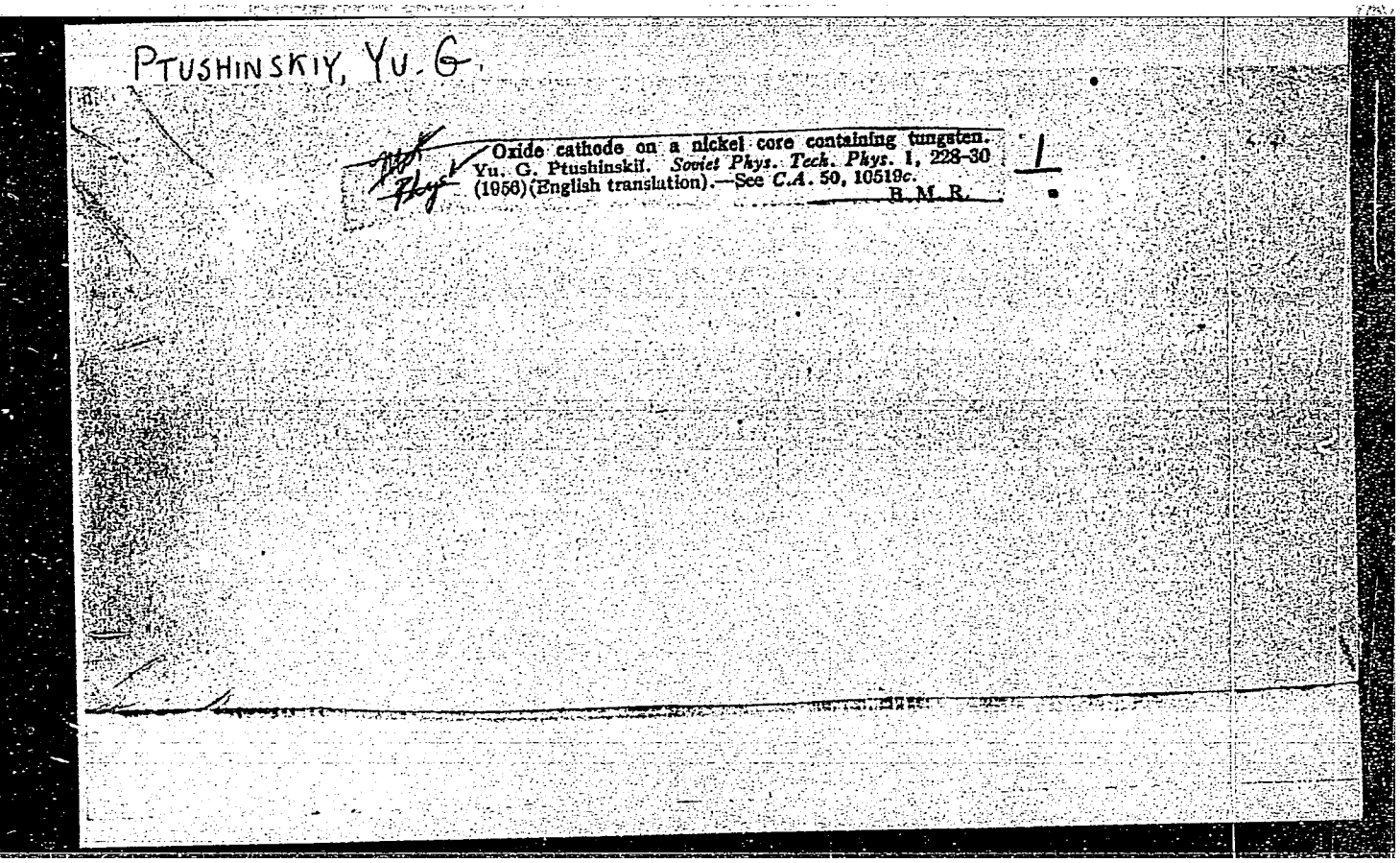
Institution :

Submitted : March 24, 1955

PTUSHINS'KIY, Yu.G.

Conference on cathode electronics. Ukr. fiz. zhur. 1 no.2: 204-206 Ap-Je '56. (MLRA 9:11)

(Electron emission) (Cathode ray tubes)



PTUSHINSKIY, Yu. G.

Oxide cathode on a nickel core containing tungsten. Yu. G. Ptushinskii. *Soviet Phys. Tech. Phys.* 1, 228-30 (1956)(English translation).—See *C.A.* 50, 10519c. R.M.R.

1

PTUSHINSKIY, Yu. G.

621.385.032.213

4588. INVESTIGATION OF AN OXIDE CATHODE HAVING A NICKEL CORE WITH TUNGSTEN ADMIXTURE.

Yu.G.Ptushinskii.

Zh. tekh. Fiz., Vol. 26, No. 1, 232-4 (1956). In Russian.

The object of the investigation was to obtain data relating to the behaviour of tungsten as an activator of oxide cathodes. The latter had, as their core, an alloy of Ni with ~5% W containing a radio-active isotope W^{185}; the coating consisted of an equimolar layer of (Ba, Sr)CO, approx. 100 μ thick. The results show that there is no evidence of migration of W into the oxide coating to within a distance of ≥ 5 μ from the core.

Z.F.Wojnar

PTUSHINSKIY, Yu.G.

Tagged atom technique in the study of the formation dynamics of depletion layers in oxide-coated cathodes. Izv.AN SSSR,Ser.fiz.20 no.10:1127 O '56. (MLRA 10:1)

1. Institut fiziki Akademii nauk USSR.
(Electron tubes) (Thermionic emission)

PTUSHINSKIY, Yu. G.

AUTHORS: Ptushinskiy, Yu.G. and Chuykov, B.A. 109-12-4/15

TITLE: Mass-spectrometric Determination of the Composition of the Residual Gases in Electron Devices with Porous Metal-film Cathodes (L-cathodes) (Mass-spektrometricheskoye opredeleniye sostava ostatochnykh gazov v elektronnykh priborakh s poristym metallo-plenochnym katodom)

PERIODICAL: Radiotekhnika i Elektronika, 1957, Vol. II, No.12, pp. 1497-1501 (USSR).

ABSTRACT: The method of measurement was similar to that employed by G. Pikus (Ref.4). The investigation was carried out in analyser tubes fitted with porous metal-film cathodes provided with barium oxide fillers (BaO + 10% Ta). After the sealing off, the pressure in the tube was reduced to 10^{-7} mmHg. A spectrogram was then taken for a cold cathode (spectrogram of the background) and the cathode was next heated to a temperature of 1 000 °C and a new spectrogram was recorded. The results are shown in Fig.1, which illustrates a spectrogram of the background (shaded areas) and an initial spectrogram (non-shaded areas); the figure relates the value of the spectrometer current to the atomic mass. From the figure, it is seen that the tube with an L-cathode operating at a pressure of 10^{-7} mmHg contains the following residual gases: hydrogen (m = 2) , helium (m = 4),

Card1/2

Card 2/2 Library of Congress

PTUSHINSKIY, Yu. G.

109-12-5/15

AUTHOR: Ptushinskiy, Yu.G.

TITLE: Influence of the Ion Bombardment on the Electron Emission of Porous Metal-film Cathodes (L-cathodes) (Vliyaniye ionnoy bombardirovki na elektronnuyu emissiyu poristogo metallo-plenochnogo katoda)

PERIODICAL: Radiotekhnika i Elektronika, 1957, Vol. II, No.12, pp. 1502 - 1511 (USSR)

ABSTRACT: The main purpose of this work was the investigation of the rate of sputtering of the barium film from the surface of L-cathodes. The experiments were carried out on a specially constructed tube and ions of argon with energies ranging from 50 - 1 800 eV were employed. Two types of investigation were carried out: A) the cathode was underheated so that the process of the replacement of barium on the surface could be neglected, and B) the cathode was operated at is normal temperature so that the supply of barium to the surface was taking place continuously.. The results obtained with underheated cathodes are shown in Figs. 6, 7, 8 and 9. Fig. 6 shows the decay of the cathode current as a function of time for various energies of the bombarding ions (from 50 to 1 800 eV). On the basis of these curves, it is possible to determine the so-called barium-film sputtering coefficient, μ , which is defined as:

Cardl/3

Influence of the Ion Bombardment on the Electron Emission of Porous Metal-film Cathodes (L-cathodes)

$$\mu = \frac{dn}{dt} \frac{e}{I_p}$$

where n is the surface concentration of the barium atoms, I_p is density of the ion current and e is the elementary charge. The graph of μ against $\log V_p$ is shown in Fig. 8, from which it follows that μ can be expressed analytically by:

$$\mu = 0.43 \lg V_p - 0.5 \qquad (1)$$

where V_p is the energy of the bombarding ions. The experimental results with a cathode operating at the normal temperature are given in Figs. 10, 11 and 12. From the above data, it is concluded that the ion bombardment leads to a considerable deactivation of the cathode, but it seems to have no influence on the uniformity of the cathode surface. In the case of the cathodes operating at their normal temperature, the ion bombardment, initially, leads to the deactivation of the cathode,

Influence of the Ion Bombardment on the Electron Emission of Porous Metal-film Cathodes (L-cathodes)

but after a certain interval of time, the emission becomes stabilised at a certain value which is lower than the normal cathode emission current (i.e. in the absence of the bombardment). Thus, a cathode operating at 1 200 °K is characterised by the following relationship between its emission current I_e^*, the current it would be capable of delivering in the absence of the bombardment I_e^o, and the pressure of the residual gases p (in mmHg):

$$\lg \frac{I_e^*}{I_e^o} = - 3.6 \cdot 10^5 I_e^* p .$$

The author thanks Corresponding Member of the Ac.Sc. Ukrainian SSR N.D. Morgulis for his constant attention and valuable advice. There are 12 figures and 15 references, 7 of which are Slavic.

ASSOCIATION: Physics Institute AS Ukrainian SSR, Kiyev (Institut fiziki AN USSR, g. Kiyev)

SUBMITTED: May 5, 1957.
AVAILABLE: Library of Congress

PTUSHINSKIY, Yu. G.

AUTHORS: Ptushinskiy, Yu.G. and Chuykov, B.A. 109-12-9/15

TITLE: Diffusion of the Strontium Vapours through the Plug of a Porous Metal-film Cathode (L-cathode) (Diffuziya parov strontsiya skvoz' gubku poristogo metallo-plenochnogo katoda)

PERIODICAL: Radiotekhnika i Elektronika, 1957, Vol. II, No.12, pp. 1530 - 1535 (USSR)

ABSTRACT: The problem has been investigated by a number of authors (Refs. 1-6) but it was felt that an additional investigation was justified. The experiments were carried out on a tungsten plug, having a porosity of 0.2 (see Fig. 2a); the velocity of the strontium vapour diffusion was compared with the corresponding free flow of the strontium vapour from a "black body" (see Fig. 26). In both cases, the dispenser contained the same mixture (Ba, Sr)CO_3 which was marked by the radioactive isotope Sr^{89} and a quantity of tantalum powder which was held in a tantalum ampule having a sieve-like cover. The experiments were carried out in a special tube (see Fig. 3) which contained a fixed cathode and a system of seven movable collectors. The presence of the collectors permitted the measurement of the velocity of the diffusion as a function of temperature. The measurements were carried out over a temperature range of 1 350 to 1 550 °K.

Card1/2

Diffusion of the Strontium Vapours through the Plug of a Porous Metal-film Cathode (L-cathode)

The results are illustrated in Fig. 4. This shows the pressure of the strontium vapours as a function of temperature to a semi-logarithmic scale. The Curves 2 and 3 refer to the pressure above the surface of the cathode, while the Curve 1 relates to the pressure in the chamber of the cathode. From the above, it is concluded that diffusion of the strontium vapours through a fine plug, having a porosity of 0.2, is mainly due to the migration mechanism (over the investigated range of temperatures). The jump in the vapour pressure between the surface and the chamber ranges from 280 to 1 800 for the investigated temperatures. It was also found by interpolation that for the normal operating temperature of 1 000 °C, this jump would be equal to 100.

The author expresses his gratitude to Corresponding Member of the Ac.Sc. Ukrainian SSR N.D. Morgulis for his interest and valuable advice. There are 4 figures and 10 references, 6 of which are Slavic.

ASSOCIATION: Physics Institute AS Ukrainian SSR, Kiyev (Institut fiziki AN USSR, g. Kiyev)
SUBMITTED: May 8, 1957
AVAILABLE: Library of Congress
Card2/2

PANCHENKO, O.A.; PTUSHINSKIY, Yu.G.

Effect of barium adsorption on the Hall effect in thin nickel films. Fiz. tver. tela 6 no.3:954-956 Mr '64. (MIRA 17:4)

1. Institut fiziki AN UkrSSR, Kiyev.

AUTHOR: Ptushinskiy, Yu. G. SOV/57-28-7-7/35

TITLE: Investigation of the Condensation of Silver Atoms on Molybdenum (Issledovaniye kondensatsii atomov serebra na molibdene)

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1958, Vol. 28, Nr 7, pp. 1402 - 1407 (USSR)

ABSTRACT: The condensation of silver atoms on the surface of carefully cleaned molybdenum as well as of other materials was investigated at a total pressure of the residual gases of 3.10^{-9} torr. (the pressure of the condensing part of the residual gases amounted to 2.10^{-10} torr.). The method of radioactive indicators was used as basic method. The investigations were started in 1953. The following results were obtained: 1) The condensation factor of the silver atoms on a very clean molybdenum surface in the investigated range of the surface concentrations (2.10^{13} - 3.10^{15} cm^{-2}) is equal to unity. 2) No influence of the bundle density of the silver atoms on the condensation of the latter was observed on the molybdenum surface in the region of the variation of density by two orders of magnitude. 3) The change of the temperature of the basis from 300 to 800° K did not

Card 1/2

Investigation of the Condensation of Silver Atoms on Molybdenum SOV/57-28-7-7/35

influence the condensation of the silver atoms. In the case of a further temperature rise of the basis the number of the already condensed atoms is reduced at the cost of the re-evaporization of the already condensed atoms. An evaluation of the desorption heat of silver atoms from the molybdenum surface yielded L = 1,5 eV. 4) A careless cleaning of the basis surface leads to difficulties in the condensation. 5) The condensation factor of the silver atoms on the surface of germanium, mica, and glas amounted to 0,96, 0,92 and 0,89 resp.- N.D.Morgulis, Corresponding Member, AS Ukrainian SSR, was interested in this paper and gave valuable hints for it. There are 3 figures and 12 references, 5 of which are Soviet.

ASSOCIATION: Institut fiziki AN USSR, Kiyev (Institute of Physics, AS Ukrainian SSR, Kiyev)

SUBMITTED: May 10, 1957

1. Silver-Physical properties

Card 2/2

PTUSHINSKIY, Yu.G. [Ptushyns'kyi, IU.H.]; LUPAN, Yu.A. [Lupan, IU.A.]

Sign of the electric conductivity of powdered germanium films. Ukr. fiz. zhur. 4 no.1:125 Ja-F '59. (MIRA 12:6)

1. Institut fiziki AN USSR.

(Germanium--Electric properties)

PTUSHINSKIY, Yu.G.

16

SOV/109-4-4-24/34

AUTHORS: Vasil'yev, G.F., Politova, N.N., Shabel'nikova, A.E., Pervova, L.Ya. and Yasnopol'skaya, A.A.

TITLE: Interdepartmental Seminar on Cathode Electronics (The 11th Meeting) (Mezhduvedomstvennyy seminar po katodnoy elektronike) (11-e zasedaniye)

PERIODICAL: Radiotekhnika i elektronika, 1959, Vol 4, Nr 4, pp 731 - 732 (USSR)

ABSTRACT: A meeting of the seminar took place on December 1, 1958 at the Institut radiotekhniki i elektroniki AN SSSR (Institute of Radio-engineering and Electronics of the Ac.Sc.USSR). During the meeting 8 papers were read. Yu.G. Ptushinskiy read a paper entitled: "Kinetics of the Adsorption of Oxygen on the Surface of Tungsten". The second paper, by I.M. Dykman and S.M. Pekar, dealt with "The Admixture Photo-effect of Semiconductors in the Region of the Exciton Light Absorption". The paper by T.L. Hatskevich was devoted to "The Problem of the Secondary Electron Emission of Fine Films of a Number of Organic Substances". The problem of "Surface Ionization in a Strong Electric Field on a Surface with a Non-homogeneous Work Function" was considered by E.Ya. Zandberg and N.I. Ionov. I.N. Bakulina and N.I. Ionov read a paper entitled "Determination of the Electron Attachment Energy and of the Potentials of Atoms by the Method of Surface Ionization". N.L. Yasnopol'skiy and A.P. Alekseyev dealt with the problem of "Passage of Steady-state Currents Through a Dielectric When the Current Carriers Are Introduced Through One of the Contacts by Means of Electron Bombardment". The lecture by D.A. Ganichev and E.G. Utkin discussed the following - "The Possibility of the Analysis of the Total-energy Distribution of Electrons in a Quasi-spherical Condenser". The work by M.L. Kapitza, S.A. Fridrikhov and A.R. Shul'man dealt with an investigation of the secondary electron emission and the characteristic energy losses of a number of dielectrics (glass, mica, fluorite and alkali-haloid monocrystals).

Card1/2

Card 2/2

USCOMM-DC-60997

PTUSHINSKIY, Yu.G.

27962
S/185/61/006/004/0[illegible]/015
D274/D303

9,3120(1138,1160,1331)

AUTHORS: Medvedyev, V.K. and Ptushyns'kyy, Yu.G.

TITLE: Electron emission of thin films of thorium oxide, covered by an adsorbed layer of barium

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 6, no. 4, 1961, 478-485

TEXT: The electron emission from thin thorium-oxide films was experimentally studied. The emission constants φ and A were measured. A cross section of the experimental lamp used, is shown in a figure. The thorium oxide was vaporized from tungsten wire (0.3 mm thick) covered by a thick thorium-oxide layer. Most of the thorium oxide films consisted of 20-30 monolayers. In order to stabilize the characteristics of the throium oxide films, they were heated (as a rule) at 1500°K for several minutes; such films are termed stabilized, and the films which did not undergo such a treatment - unstabilized. The thermionic work function was determined by Rich-

Card 1/4

Electron emission of thin films...

ardson's method (Ref. 5: K. Hering, M. Nichols, Thermoelectronic Emission, IL, 1950). The emission constants φ (the mean work-function) and A, as determined by the measurements, are given in a table according to the following types of film: I) unstabilized thorium oxide, II) stablized thorium oxide, III) thorium oxide covered by a medium layer of barium, and IV) thorium oxide covered by an optimum layer of barium. It follows from the table that the work function decreases in the order II-III-IV, reaching its minimum value of 2.4 eV for an optimum covering of barium. The constant A decreases, too. Further, the current-voltage characteristics of the systems barium-thorium oxide and barium-tungsten are compared. At sufficiently high anode-voltages, cold electron-emission of the thorium oxide films was observed. For pure, stabilized, thorium oxide films (of approximately 20 monolayers): $\bar{\varphi} \approx 2.8$ eV, $A \cong 160$ amp·deg^{-2}cm^{-2}; for films covered by an optimum layer of barium: $\bar{\varphi} \approx 2.4$ eV, $A \cong 12$ amp·deg^{-2}cm^{-2}. From the point of view of thermionic emission, the system barium-thorium oxide is considerably inferior to that of barium-tungsten, since the first system has a

Card 2/4

27962
S/185/61/006/004/004/015
D274/D303

Electron emission of thin films...

publications read as follows: L. Malter, Phys. Rev., 49, 478, 1936; H. Jacobs, J Freely, F. Branel, Phys. Rev., 88, 492, 1952; A. Skellett, B. Firth, D. Mayer, Proc. I.R.E., no. 10, 1704, 1959.

ASSOCIATION: Instytut fizyky AN USSR, Kyyiv (Physics Institute AS UkrSSR, Kiyev)

SUBMITTED: November 16, 1960

Card 4/4

PTUSHINSKIY, Yu.G. [Ptushyns'kyi, IU.H.]; CHUYKOV, B.A. [Chuikov, B.O.]

Peculiarities of the partial adsorption of residual gas components at very high vacuum. Part 2. Ukr.fiz.zhur. 7 no.1:79-81 Ja '62. (MIRA 15:11)

1. Institut fiziki AN UkrSSR, Kiyev.
(Gases—Absorption and absorption)
(Vacuum technology)

35993
S/109/62/007/004/011/018
D290/D302

9,4110

AUTHORS: Ptushinskiy, Yu.G., and Chuykov, B.A.

TITLE: Interaction of molecular beams of barium oxide with incandescent tungsten surfaces

PERIODICAL: Radiotekhnika i elektronika, v. 7, no. 4, 1962, 687 - 692

TEXT: The processes of thermal dissociation, chemical reaction and thermal ionization were studied in order to elucidate the basic mechanism of adsorption and the properties of tungsten cathodes coated with barium oxide. A mass-spectrometer was used. The degree of dissociation varied with temperature; appreciable dissociation took place above about 1700°K; dissociation was practically complete above about 2200°K (the beam currents were between 2×10^{10} and 2×10^{12} molecules of BaO/cm^2/sec.). There was no appreciable chemical reaction if the tungsten surface was only partly covered with a monomolecular layer of BaO; a vigorous reaction took place if the surface has been previously covered with a thick layer of BaO; barium tungstate is formed. Barium ions were emitted from the tungs-

Card 1/2

PTUSHINSKIY, Yu.G. [Ptushyns'kyi, IU.H.]; PANCHENKO, O.A.

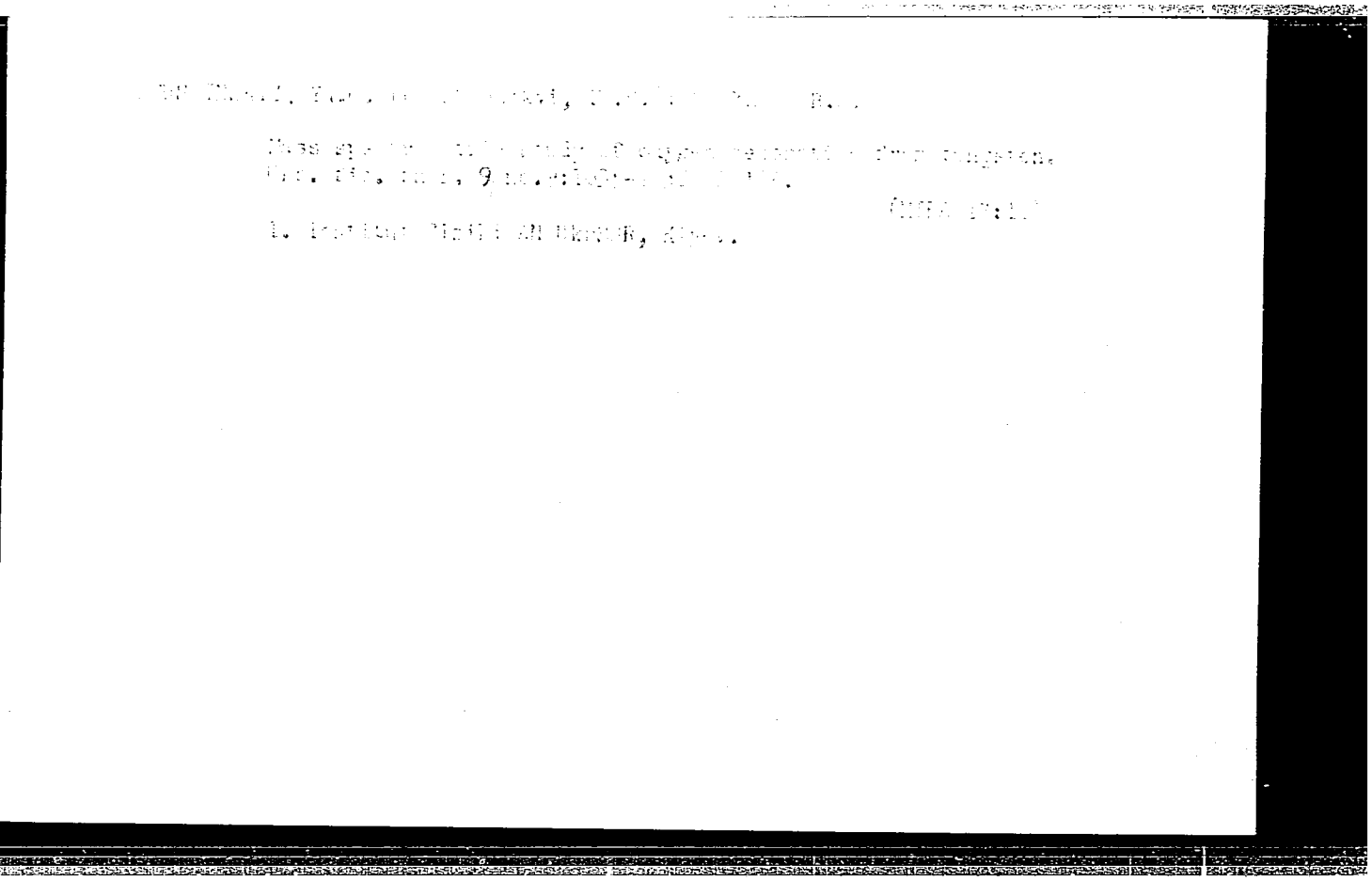
Variation of the electric resistance of thin metal films during adsorption. Ukr. fiz. zhur. 7 no.10:1079-1082 O '62. (MIRA 16:1)

1. Institut fiziki AN UkrSSR, Kiyev.
(Electric resistance) (Adsorption)

PTUSHINSKIY, Yu.G.; CHUYKOV, B.A.

Adsorption of hydrogen on the surface of tungsten covered by oxygen. Kin. i kat. 5 no.3:513-519 My-Je '64. (MIRA 17:11)

1. Institut fiziki AN Ukr.SSR.



L 13773-65 EWT(1)/EWT(m)/T/EWP(t)/EEC(b)-2/EWP(b) Pad IJP(c)/AFWL/AS(mp)-2/
SSD/ASD(a)-5/ESD(dp)/ESD(gs)/ESD(t) JD/HW/GG

ACCESSION NR: AP4045301 S/0048/64/028/009/1466/1469

AUTHOR: Panchenko, O. A.; Ptushinskiy, Yu. G.

TITLE: Influence of adsorption on the Hall effect in thin nickel films [Report, Tenth Conference on Cathode Electronics held in Kiev from 11 to 18 Nov 1963]

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 28, no. 9, 1964, 1466-1469

TOPIC TAGS: adsorption, conduction band, electron exchange, Hall effect, thin film, nickel

ABSTRACT: Generally, when investigating electron exchange incident to adsorption of various atoms and molecules on metals, experimenters have had recourse to observation of changes in the resistance of thin metal films as a result of adsorption. As was pointed out by the authors in earlier papers (Yu. G. Ptushinskiy, Radiotekhnika i elektronika, 5, 1663, 1960; Yu. G. Ptushinskiy and O. A. Panchenko, Ukr. fiz. zhur., 7, 1079, 1962), however, changes in resistance in-

Card 1/4

L 13773-65
ACCESSION NR: AP4045301

cident to absorption may be due not only to electron exchange, but to other mechanisms which can be identified by varying the temperature of the metal film. This, however, is not always feasible or desirable. Accordingly, the authors attempted to use observations of the Hall effect for investigating electron exchange. The influence of adsorption of oxygen, barium oxide, and barium on the Hall effect in nickel films was studied. A diagram of the experimental tube is shown in Fig. 1 of the Enclosure. First, Hall emf versus magnetic field curves were obtained for clean nickel films; these are typical of ferromagnetic films. Then, analogous curves were obtained with the films coated with oxygen, barium, and barium oxide. The last had virtually no effect. Adsorption of oxygen resulted in an increase in the slope of the curve in the high-field region, indicating reduction of the number of conduction electrons in the film. Adsorption of barium, on the contrary, appears to increase the number of conduction electrons in the film slightly. Adsorption of oxygen and of barium leads to changes in the extraordinary Hall effect (the authors do not attempt to interpret this phenomenon at present). It would appear, therefore, that investigation of the influence of adsorption on the Hall effect in thin

Card 2/4

L 13773-65
ACCESSION NR: AP4045301

films can yield valuable information on electron exchange. Orig. art has: 2 formulas and 4 figures.

ASSOCIATION: Institut fiziki Akademii nauk UkrSSR (Institute of Physics, Academy of Sciences, UkrSSR)

SUBMITTED: 00 ENCL: 01

SUB CODE: EM, GC NO REF SOV: 003 OTHER: 002

Card 3/4

L 13773-65
ACCESSION NR: AP4045301

ENCLOSURE: 01

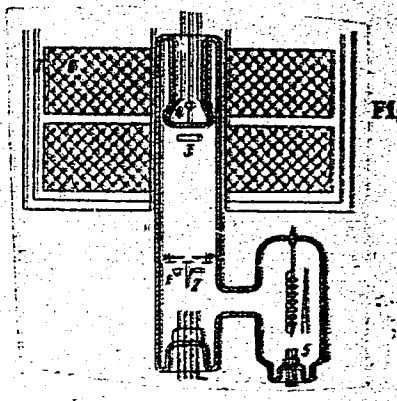


Fig. 1. Diagram of the experimental tube: 1 - nickel evaporator, 2 - adsorbate evaporator, 3 - movable electron gun, 4 - support for deposition of films, 5 - ionization vacuum gage, 6 - solenoid, 7 - liquid nitrogen.

Card 4/4

S/109/62/007/004/011/018
D290/D302

AUTHORS: Ptushinskiy, Yu.G., and Chuykov, B.A.

TITLE: Interaction of molecular beams of barium oxide with incandescent tungsten surfaces

PERIODICAL: Radiotekhnika i elektronika, v. 7, no. 4, 1962, 687 - 692

TEXT: The processes of thermal dissociation, chemical reaction and thermal ionization were studied in order to elucidate the basic mechanism of adsorption and the properties of tungsten cathodes coated with barium oxide. A mass-spectrometer was used. The degree of dissociation varied with temperature; appreciable dissociation took place above about 1700°K; dissociation was practically complete above about 2200°K (the beam currents were between 2×10^{10} and 2×10^{12} molecules of $BaO/cm^2/sec.$). There was no appreciable chemical reaction if the tungsten surface was only partly covered with a monomolecular layer of BaO; a vigorous reaction took place if the surface has been previously covered with a thick layer of BaO; barium tungstate is formed. Barium ions were emitted from the tungs-

Card 1/2

ten surface at temperatures above about 1700°K; no BaO ions were observed. The maximum in the curve of barium ion current against temperature is probably caused by the oxygen that is produced as the BaO dissociates. Desorption of BaO from the tungsten surface took place in two stages, starting at about 1100°K and 1400°K; the two stages were more distinct the greater the fraction of the surface that was initially covered with BaO. There are 5 figures and 9 references: 5 Soviet-bloc and 4 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: M. Inghram, W. Chupka, R. Porter, J. Chem. Phys., 1955, 23, 11, 2159; R. Bayard, D. Alpert, Rev. Scient. Instrum., 1950, 21, 6, 571; R. Huges, P. Coppola, H. Evans, J. Appl. Phys., 1952, 23, 6, 635; P. Russel, A. Eisenstein, J. Appl. Phys. 1954, 25, 8, 954.

ASSOCIATION: Institut fiziki AN USSR (Physics Institute AS UkrSSR)

SUBMITTED: May 15, 1961

L 6816-65 EWT(m)/T/EWP(q)/EWP(b) ASD(f)/AFWL/SSD/AS(mp)-2/Pb-4 JD/JW/JG

ACCESSION NR: AP4044656 S/0048/64/028/008/1373/1376

AUTHOR: Karmanov, G.A.; Ptushinskiy, Yu.G.

TITLE: Procedure for measuring the amount of adsorbed gas [Report, Third All-Union Conference on Semiconductor Compounds held in Kishinev 16-21 Sep 1963]

SOURCE: AN SSSR. Izv. Seriya fizicheskaya, v.28, no.8, 1964, 1373-1376

TOPIC TAGS: adsorption, adsorption rate, chemisorption, carbon monoxide, tungsten

ABSTRACT: The adsorption of carbon monoxide on tungsten was investigated at temperatures from 77 to 293°K by a modification of the flash desorption method of J. Becker and C.Hartman (J.Phys.Chem.57,157,1953). The measurements were undertaken because of the lack of reliable low temperature data, particularly for the rate of adsorption, although the phenomenon has been adequately investigated at higher temperatures. As indicated by their choice of title, however, the authors regard their modification of the flash desorption method as at least as important as their results concerning carbon monoxide. This modification consists in heating the tungsten adsorber by discharging a capacitor through it, rather than by suddenly applying a constant emf. By discharging a 1300 microfarad capacitor charged to 140 V

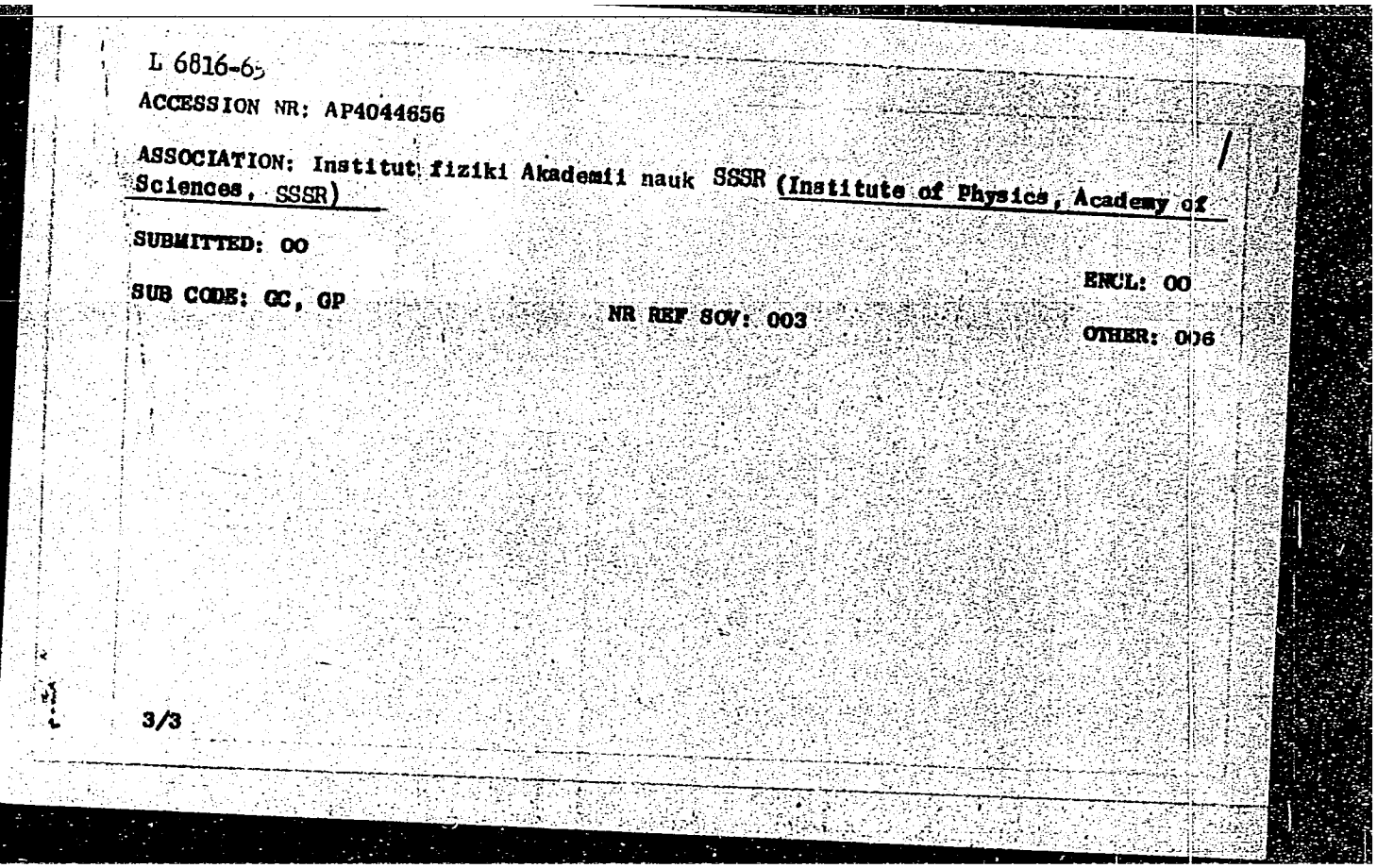
1/3

L 6816-65

ACCESSION NR: AP4044656

through their tungsten strip (dimensions not given) the authors were able to bring it to 2500°K within 4 millisec, whereas approximately one second was required to heat the strip to that temperature by applying a dc voltage. The rapid change in pressure accompanying the rapid heating of the adsorber was followed by means of an ionization gage and an oscillograph. The advantage of the rapid flash is that the system may be continuously pumped at a reasonable rate without appreciably affecting the peak pressure. Adsorption isobars for CO on W were obtained at pressures from 10^{-5} to 10^{-7} mm Hg and temperatures from 77 to 253°K, and adsorption rates were measured. The initial adsorption rates (onto a clean surface) were analyzed with the aid of the equation of V.M.Gavrilyuk (Dokl.AN SSSR,141,1124,1961), and it was found that the difference between the heat of (physical) adsorption and the activation energy for chemisorption is 0.04 eV. The heat of adsorption was calculated as a function of the surface density of adsorbed gas from the adsorption isobars. It was found to decrease from 0.83 eV at 7.7×10^{14} cm^{-2} to 0.19 eV at 11×10^{14} cm^{-2} (approximately one CO molecule per surface W atom) and to remain constant at this value at higher densities. This constant high density heat of adsorption is regarded as the heat of physical adsorption, and it is accordingly concluded that the activation energy for chemisorption is 0.15 eV. Orig.art.has: 1 formula and 7 figures.

2/3



L 6816-65

ACCESSION NR: AP4044656

ASSOCIATION: Institut fiziki Akademii nauk SSSR (Institute of Physics, Academy of Sciences, SSSR)

SUBMITTED: 00

ENCL: 00

SUB CODE: GC, GP

NR REF SOV: 003

OTHER: 006

3/3

DREVS, Georgiy Vyacheslavovich; PTUSHKIN, A.T., kand. tekhn. nauk, spets. red.; KLEYMAN, L.M., red.

[Operation of electrical equipment in grain storage and processing enterprises (with principles of electrical engineering)] Ekspluatatsiia elektrooborudovaniia na predpriiatiiakh po khraneniiu i pererabotke zerna (s osnovami elektrotekhniki). Moskva, Kolos, 1964. 271 p.
(MIRA 17:12)

S/165/61/000/001/004/007
A104/A127

AUTHORS: Ptushkin, E.I., Tiunov, K.V., Khudaynazarov, G.

TITLE: Tectonic features of the Bol'shoy Balkhan

PERIODICAL: Akademiya nauk Turkmenskoy SSR. Izvestiya. Seriya fiziko-tekhnicheskikh, khimicheskikh i geologicheskikh nauk, no. 1, 1961, 51 - 58

TEXT: Since 1954 the Upravleniya geologii i okhrany nedr pri Sovete Ministrov Turkmenskoy SSR (Administration of Geology and Protection of Mineral Resources of the Soviet of Ministers of Turkmenskaya SSR) has been conducting geological surveys of the Bol'shoy Balkhan and neighbouring areas to determine gas and oil potential of West Turkmenistan. The main tectonic elements under survey were the Bol'shebalkhanskaya anticline, the Severobalkhanskiy foot hill depression and the southern cavity of the Bol'shoy Balkhan. Apart from these there are also a number of minor folds, e.g. the brakhyanticline composed of Neocomian rocks on the plateau near Eshekel, which has a wall gradient of 15-25°; in the west this brakhy anticline closes somewhere near the Eshekel meridian. Three outcrops of Mesoyurassic deposits in the area of a non-eroded Neocomian anticline between the Balkui and Danata wells, and the unconformable stratification of the

S/165/61/000/001/004/007
A104/A127

Tectonic features of the Bol'shoy Balkhan

Neocomian stage, indicate the presence of pre-cretaceous upheavals in the area of Sekidag. One of these is known as the Balkuinskaya brakhyanticline. A characteristic of the pre-cretaceous folds of the Bol'shoy Balkhan are: medium range, symmetric formation, completeness and strictly latitudinal expansion. Disjunctive dislocations and folds were noted chiefly in cretaceous and paleogene deposits. Folds of varying dimensions were discovered on the northern wall of the anticline near Kyariz-Oglanly and on the southern wall near the synacline Duzmergen. One of the largest is the Koshaguyskiy fold, which intersects the southern wall of the Bol'shebalkhanskaya anticline in southeastern direction. There are three types of disjunctive dislocation which complicated the formation of some parts of the Bol'shebalkhanskaya anticline: 1) longitudinal with subtypes: overthrusts and upheavals, broken folds, interstratum sliding; 2) latitudinal; 3) diagonal. Some of these faulty dislocations are: the steep overthrust in the western part of the area has the greatest vertical range and expands between the Borzhokly and Karayman wells. The stratographic range of relative wall dislocations reaches 1,500 m and above. Drilled wells reveal that the inclination angle of the fault fissure plane at the granite outcrop Karayman exceeds 55° and at the outcrop of tuffs of quartzitic porphyry 75°. Among longitudinal faulty disturbances there are also disjunctive dislocations of the "interstratum sliding" type.

Card 2/ 6

S/165/61/000/001/004/007
A104/A127

Tectonic features of the Bol'shoy Balkhan

Some of the largest latitudinal upheavals, described by E.A. Repman and K.K. Mashrykov, located on the southern wall of the Shorlinskaya synacline, their stratigraphic range reaching 120 m. To the latitudinal dislocations belong numerous ruptures in the Neocomian stratum of the northern wall of the Bol'shebalkhanskaya anticline; their expansion does not exceed 100-150 m. In the southern part of the anticlinar fold there are fewer dislocations though sometimes of greater expansion. Outstanding among these are the dislocations at the 480 m throw (west of Danat well); 1,097 m (northwest of the Umbil'muz spring and 1,629 m south of the Meulam spring, on the eastern edge of the Dashlydere gorge, western of Porsyayman. Numerous latitudinal dislocations were observed at the southern wall of the Bol'shebalkhanskaya anticline to the north of Nebit-Dag, described by N.P. Luppov [Ref. 3: "Osnovnyye cherty geologicheskoy struktury B. Balkhana-Kuba-Daga i istoriya yeye tektonicheskogo razvitiya" (Basic features of the geological formation of the Bol'shoy Balkhan - Kub Dag districts and the history of its tectonic development). Izvestiya AN TSSR, no. 4, 1952] and R.G. Konstant. One of the largest faults is the break formed in the Lammaburunskaya brakhyanticline. Investigations of fissure tectonics revealed that the majority had a northwest (320-345°) and southwest (35-60°) expansion. Fissures expanding at 35-60° and 290-310° were partly mineralized. In 1958 a well

Card 3/6

S/165/61/000/0001/004/007
A104/A127

Tectonic features of the Bol'shoy Balkhan

has been drilled 11 km to the north-northeast from the outcrops of paleogene deposits near the Oglangy village, located in the foot hill depression northern of the Bol'shebalkhanskaya anticline; at 504 m were revealed upper-cretaceous deposits of 189 m thickness (Danish stratum). The well slope has a depth of 693m. Beginning at 142 m under a layer of unbroken proluvial quaternary plyocene deposits were disclosed sea akchagyl (48 m), paleogene (314 m), Danish stratum (18 m), maastricht (69 m) and Campan (102). The southern depression of the Bol'shoy Balkhan forms the northern border of the Pribalkhanskaya depression, which consists of caynozoic deposits. Wells drilled on the Balaychenskaya texture bench revealed a cover of cretaceous deposits at 1,330-1,900 m. Red neogenic layers rest transgressively on these. Maximum stratification depth of cretaceous rocks in the Inter-Balkhan depression is 2,500 m; as stated earlier by V.V. Buklin, a disjunctive dislocation stretches between Karadzhadag and the southern slopes of Bol'shoy Balkhan. Core drilling carried out in 1957-58 provided additional data on akchagyl deposits in the southwestern region of this area. Akchagyl was first disclosed by T.V. Tiunov [Ref. 12: "Novyye dannyye ob akchagil'skikh otlozheniyakh Bol'shogo Balkhana" (Recent information on akchagyl deposits of the Bol'shoy Balkhan), Izvestiya AN TSSR, no. 6, 1958] at 5 km west-southwest of the Uchgez spring at absolute marks +120, +140 m. 15 km westwards from this point in a well

Card 4/6

S/165/61/000/001/004/007
A104/A127

Tectonic features of the Bol'shoy Balkhan

located 8 km north of Molla-Kara at absolute mark 503 m. The comparison of the stratification of basic akchagyl in the area of Uchgez and in the Molla-Kara well indicate the intensity of the sinking of the Cisbalkhanskiy region of the West Turkmenistan depression. Conclusions: There are two distinctive phases in the development of the Bol'shoy Balkhan, i.e. pre-cretaceous and post-paleogene. As a result of anti-cretaceous movement on the territory of the present Bol'shebalkhanskaya anticline, Yurassic stages formed brakhyanticline folds. The post-paleogene folds formed the Bol'shebalkhanskaya anticline as it is today. Unlike pre-cretaceous movements, the former led to a slight displacement of the anticlinal axis from latitudinal towards northwest, particularly in the western region, and to numerous disjunctive dislocations and faults. The total width of Yurassic, Cretaceous and Paleogene deposits of the Bol'shoy Balkhan exceeds 7.5 km. Such considerable width, age and intensity of dislocation are unusual in stage formations. In certain parts of (Soviet) Central Asia, the Ciscaspian, North Caucasus and the Iran Yurassic and Cretaceous deposits are oil-bearing. Lithological and environment characteristics of Yurassic and Cretaceous deposits, the consistency of basic complexes and numerous brakhyanticlinal folds provide favourable conditions for the formation and preservation of large oil and gas deposits. Consequently, the Mesozoic deposits in the regions adjoining the Bol'-

Card 5/6

Tectonic features of the Bol'shoy Balkhan

shoy Balkhan (particularly in the north) should be considered as potential fields of oil and gas prospecting. There are 2 figures and 12 Soviet-bloc references.

ASSOCIATION: Upravleniye geologii i okhrany nedr pri Sovete Ministrov Turkmenskoy SSR (Administration of Geology and Protection of Mineral Resources of the Soviet of Ministers of Turkmenskaya SSR)

SUBMITTED: July 30, 1960

ZAKHIDOV, A.U.; PTUSHKIN, E.I.; TIUNOV, K.V.

Structure of the eastern part of the northern Balkhan Trough.
Neftegaz. geol. i geofiz. no. 12:19-23 '63. (MIRA 17:5)

1. TSentralInaya kompleksnaya tematicheskaya ekspeditsiya.

PTUSHKIN, I.V.; SHEVCHENKO, V.I.

Whooping cough vaccine from bouillon culture. Vak. i syv. no.1:166-169 '63. (MIRA 18:8)

1. Leningradskiy institut vaktsin i syvorotok.

[illegible] ELIKIN, S.B.; DAVYDOVA, T.I.; MESTRILOVA, M.V.

Use of a liquid medium for the growth of concentrated Hemophilus pertussis cultures suitable for vaccine preparation. Vak. i syv. no.12:70-73 '58 (MIRA 18:2)

1. Leningradskiy institut vaktsin i syvorotok.

REVA, I.N.; PTUSHKIN, K.F.

Conscientious work leads to the path of production success.
Vest. sviazi 24 no.11:27-28 N '64. (MIRA 18:2)

1. Starshiy ekonomist Kiyevskogo otdeleniya perevozki pochty (for Reva).

PTUSHKINA, S.G. (Moskva, D-252, Chapayevskiy pereulok, d.5, korp., 3 kv. 1.)

Compensation in the function of the cardiovascular system and respiration following radical surgery for pulmonary cancer. Grudn. khir. 4 no.5:80-85 S-O'62 (MIRA 17:3)

1. Iz kliniki obshchey khirurgii (zav. - chlen-korrespondent AMN SSSR laureat Leninskoy premii prof. V.I.Struchkov) lechebnogo fakul'teta I Moskovskogo ordena Lenina meditsinskogo instituta imeni Sechenova.

PTUSHINSKIY, Yu.G.

Effect of adsorption on the resistance of the thin metal films. Part 2. Electropositive atoms. Radiotekh. i elektron. 6 no.3:384-386 Mr '61. (MIRA 14:3)
(Work function) (Adsorption)
(Metallic films--Electric properties)

21589

S/109/60/005/010/012/031
E032/E114

26.2421
26.2531

AUTHOR: Ptushinskiy, Yu.G.

TITLE: Effect of adsorption on the resistance of thin metal films. I. Dipolar molecules

PERIODICAL: Radiotekhnika i elektronika, Vol.5, No.10, 1960, pp. 1663-1668

TEXT: This paper was read at the 9th All-Union Conference on Cathode Electronics in Moscow, October, 1959.
An investigation is reported of the effect of adsorption of the dipolar molecules of BaO and CsCl on the work function and resistance of thin films of Ni, W, and Cu, and also the adsorption of BaO on thin films of semiconducting Ge. The adsorbate and the adsorbent were deposited by evaporation on to platinum targets. The targets were cooled down to 78 °K, and after the deposits were obtained they were heated to 370 °K. The thickness of the metal films was of the order of 10^{-6} cm and that of the Ge films. 10^{-5} cm. Measurements were then made of the work function and resistance of the films as functions of time, while the films were being exposed to constant-intensity molecular beams of BaO and

Effect of adsorption on the ....

CsCl. In all cases the work function decreased and the resistance increased with time, there being a definite correlation between the two quantities. The only exception was found in the case of Ge where the work function decreased but the resistance remained constant. The temperature dependence of the resistance of the BaO-Ni and CsCl-Ni films was also measured between 21 and 78 °K. It was found that in both cases $\Delta R/R$ is a function of temperature. It is suggested that the above effects are due to the scattering of electrons at the surface of the film during the adsorption, rather than to the diffusion of BaO and CsCl molecules.
Acknowledgements are made to N.D. Morgulis for interest and advice, to M.A. Krivoglaz for valuable discussions, and to Yu.A. Lupan for assistance in the experiments.
There are 6 figures and 6 references: 4 Soviet and 2 non-Soviet.

ASSOCIATION: Institut fiziki AN USSR
(Institute of Physics, AS, Ukr.SSR)

SUBMITTED: December 21, 1959

Card 2/2

21651
S/109/61/006/003/006/018
E032/E314

26.2531

AUTHOR: Ptushinskiy, Yu.G.

TITLE: Effect of Adsorption on the Resistance of Thin Metallic Films. Part II. Electropositive Atoms

PERIODICAL: Radiotekhnika i elektronika, 1961, Vol. 6, No. 3, pp. 384 - 386

TEXT: A study is reported of the effect of adsorption of caesium and barium atoms on the resistance and work function of evaporated nickel and tungsten films. The effect of adsorption of barium atoms on the resistance of oxygenated nickel (monomolecular layer of oxygen)has also been studied. The experimental tubes used in this work were identical to those described by the present author in Ref. 1 and are not described. The barium deposits were obtained by heating a tantalum tube filled with barium,and the caesium source was in the form of evacuated ampules charged with a drop of caesium and broken under vacuum. The adsorption of the barium and caesium atoms occurred with the metal films at 78 °K. The thickness of the films was of the order of

Card 1/4

Effect of Adsorption ....

10^{-6} cm and the residual gas pressure was 2×10^{-9} mm Hg. The results obtained are summarised in Figs. 1-4. The figure captions are as follows:
Fig. 1 - dependence of the work function φ (eV) and the resistance R (ohm) of a nickel film as a function of deposition time (minutes) for barium;
Fig. 2 - dependence of φ and R for a nickel film on the deposition time for caesium;
Fig. 3 - dependence of φ and R for a tungsten film as a function of the deposition time for caesium;
Fig. 4 - dependence of φ and R for a nickel film covered with a layer of oxygen on the deposition time for barium.
There are 4 figures and 8 references: 4 Soviet and 4 non-Soviet.

SUBMITTED: July 29, 1960

21651
S/109/61/006/003/006/018
E032/E314

Effect of Adsorption ....

Fig. 1:

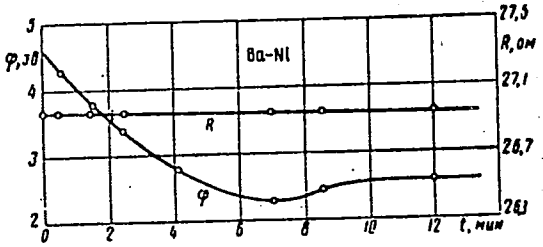


Рис. 1. Зависимость φ и R никелевой пленки от времени напыления бария

Fig. 2:

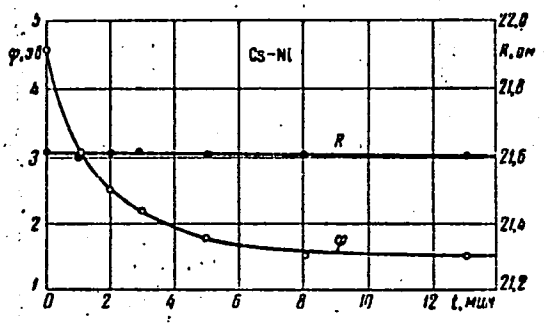


Рис. 2. Зависимость φ и R никелевой пленки от времени напыления цезия

Card 3/4

Effect of Adsorption ....

Fig. 3:

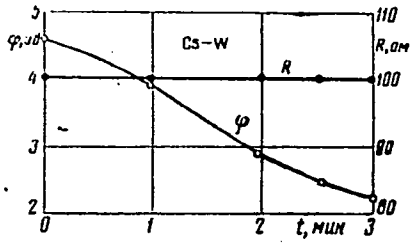


Рис. 3. Зависимость φ и R вольфрамовой пленки от времени напыления цезия

Fig. 4:

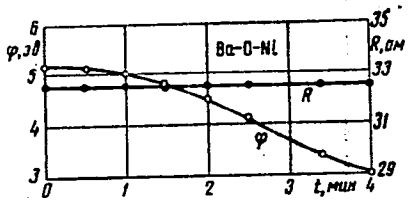


Рис. 4. Зависимость φ и R никелевой пленки, покрытой кислородом, от времени напыления бария

Card 4/4

PTUSHINSKIY, Yu.G.

Effect of adsorbtion on the resistance of thin metal films. Part 1. Dipolar molecules. Radiotekh. i elektron. 5 no.10:1663-1668 O '60. (MIRA 13:10)

1. Institut fiziki AN USSR.
(Work function)

9.3150
~~10 (3)~~ 5.1600

66166

AUTHORS: Morgulis, N. D., Ptushinskiy, Yu. G., Chuykov, B. A. SOV/20-128-5-18/67

TITLE: Some Specific Features of the Partial Adsorption of Residual Gas Components at Very High Vacuum

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 5, pp 930-932 (USSR)

ABSTRACT: In the present paper the authors investigate the properties of a "natural" mixture of residual gases generally present in electronic devices at high vacuum. For this investigation the authors use a mass spectrometric device intended for investigations in the field of high-vacuum processes. The inside of the mass spectrometric analyzer tube employed was fitted with a long tungsten band. This tube consisted wholly of glass and was soldered. The pressure of the residual gases was $p \sim 1.10^{-8}$ torr. The tungsten band served as the basis on whose surface the components of the residual gases investigated were adsorbed. A schematic representation of the mass spectrum of these gases is given in a figure. The present problem was investigated by the well-known "flash" method. The relative degree of adsorption $\Delta I/I_m$ of each component of this mixture

Card 1/4

4

Some Specific Features of the Partial Adsorption of Residual Gas Components at Very High Vacuum

may be determined from data given in the above-mentioned figure. This degree of adsorption is proportional to the mean condensation probability $\bar{k}_m : \frac{\Delta I_m}{I_m} = \frac{BN_m q_n}{Ap_m q_m} = C\bar{k}_m$, where N_n denotes the total amount of gas adsorbed within the given time. The following interesting conclusion is arrived at: $\bar{k}_m(He) = 0$, $\bar{k}_m(H_2) \approx \bar{k}_m(N_2)$. In order to obtain more exact data on the specific features of adsorption of each gas component in the mixture, the partial adsorption rates were determined by measuring the dependence of the quantity ΔI_m on the time t of previous adsorption exposure. This dependence is represented in a diagram for the 2 main components H_2 and N_2. For comparison, the dependence ΔI is shown for the total "flash" of all gases in the ion source. The total pressure of the gases amounted to $p' \approx 1.10^{-8}$ torr. The desorption of the components H_2 and N_2 from tungsten after extremely long exposure of the latter in the residual gas atmosphere

Card 2/4

Some Specific Features of the Partial Adsorption of Residual Gas Components at Very High Vacuum

can be investigated more closely by means of the temperature variation with respect to time. In doing so, the authors observed the polyphase nature of the adsorbed states of H_2 and N_2 on tungsten, which complicates this phenomenon even more. The third diagram gives the characteristics of partial dependence on adsorption of the "pumping out" of the gas components H_2 and N_2 from the mixture of residual gases, after the tungsten band had been freed from these components by "flashing" at high temperatures and then cooled. The curves shown in figure 2 are qualitative representations of the integrals of the curves given in figure 3. Investigations of this problem are being continued. There are 3 figures and 2 references, 1 of which is Soviet.

ASSOCIATION: Institut fiziki Akademii nauk USSR (Institute of Physics of the Academy of Sciences, Ukr SSR)

PRESENTED: March 27, 1959, by I. V. Obreimov, Academician

66166

Some Specific Features of the Partial Adsorption of Residual Gas Components at Very High Vacuum

SOV/20-128-5-18/67

4

SUBMITTED: March 16, 1959

Card 4/4